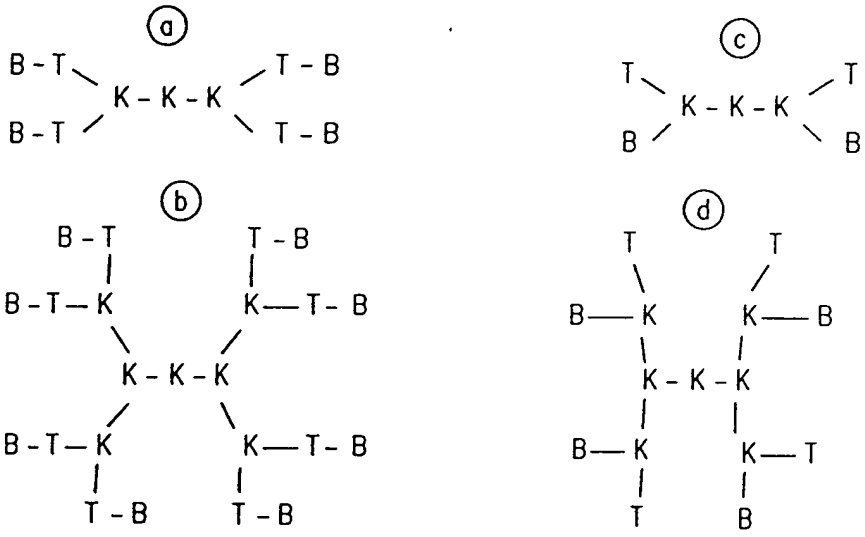


B=carbohydrate, or carbohydrate and tumor peptidicmarker
T=T, CD_4^+ epitope
K=lysine

a=B4–T4–M
b=B8–T8–M
c=B2–T2–M
d=B4–T4–M(different organization of T–B epitope)

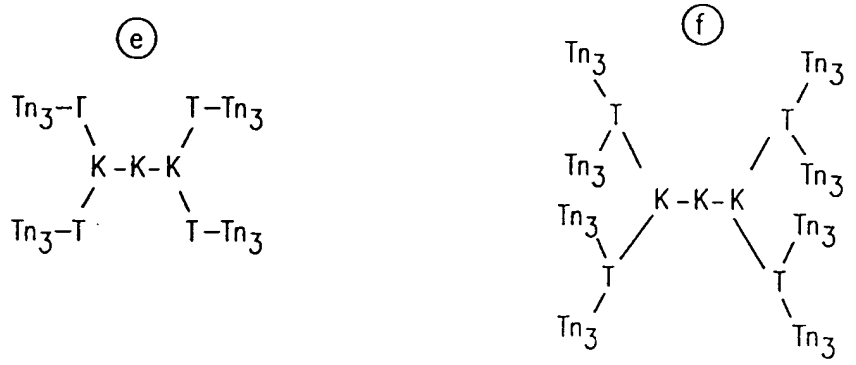
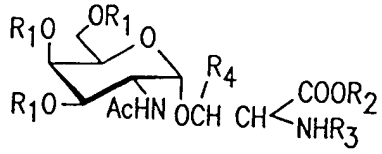
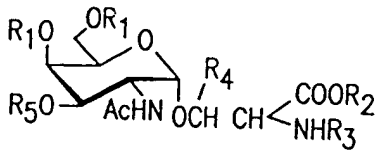


FIG. 1



1:R_1=Ac, R_2=*t*-Bu, R_3=Fmoc, R_4=H or CH_3
2:R_1=R_2=H, R_3=Fmoc, R_4=H or CH_3
3:R_1=R_2=R_3=H, R_4=H or CH_3

FIG. 2a



1:R_1=Ac, R_2=*t*-Bu, R_3=Fmoc, R_4=H or CH_3
R_5=SUGAR MOIETY
2:R_1=R_2=H, R_3=Fmoc, R_4=H or CH_3
R_5=SUGAR MOIETY
3:R_1=R_2=R_3=H, R_4=H or CH_3
R_5=SUGAR MOIETY

FIG. 2b

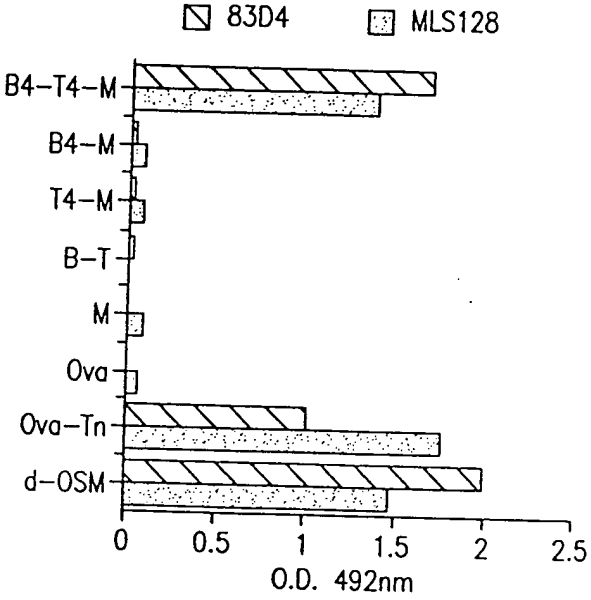


FIG. 3

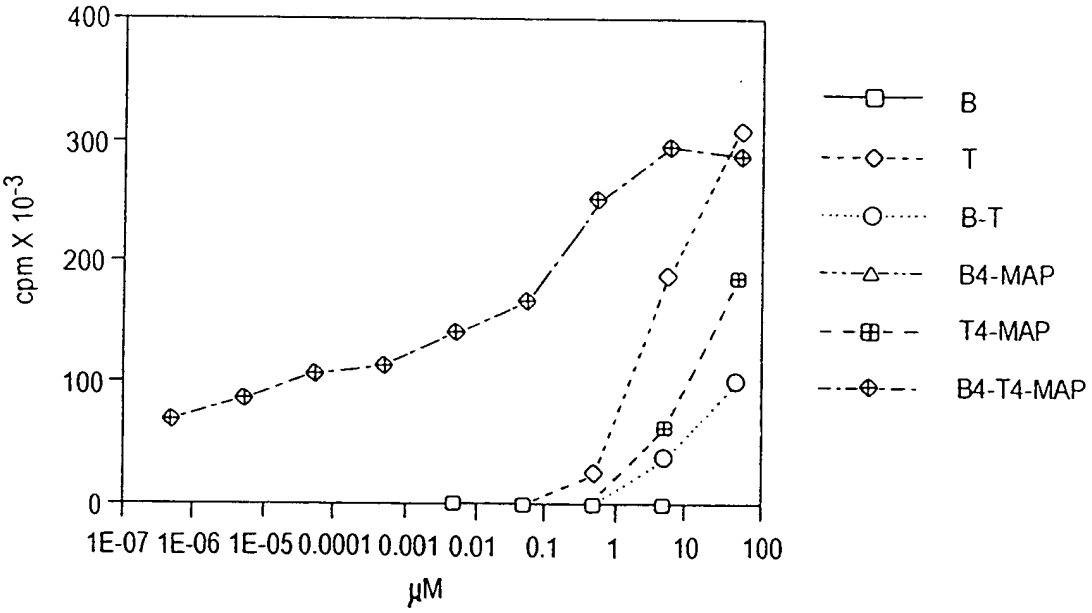


FIG. 4a

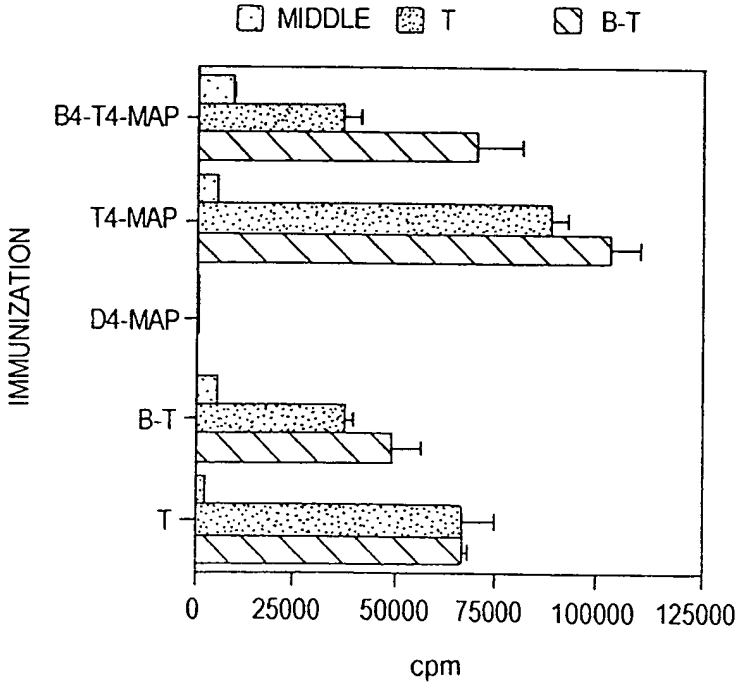


FIG. 4b

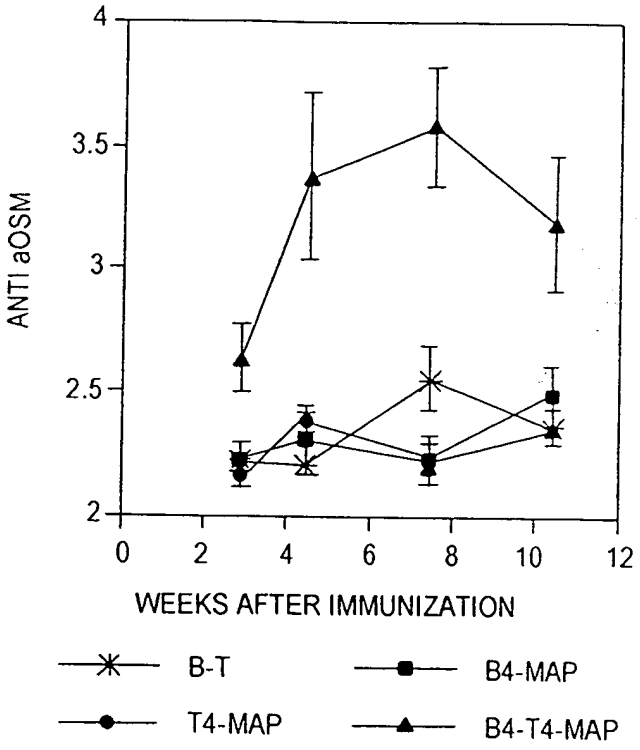


FIG. 5a

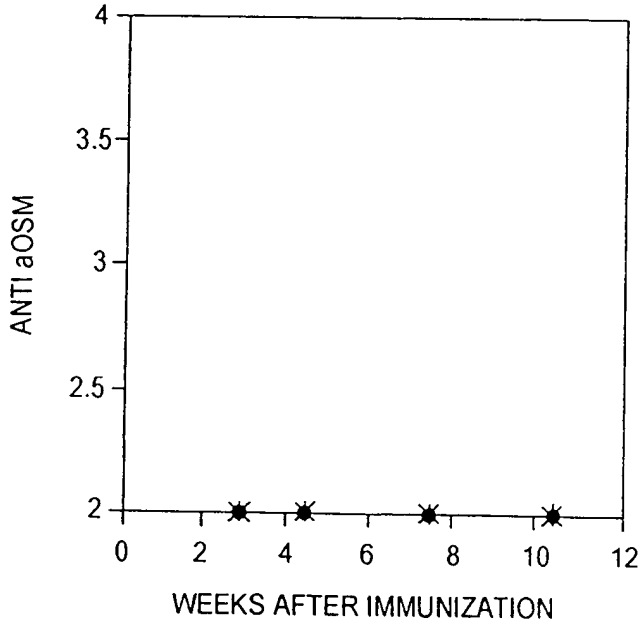


FIG. 5b

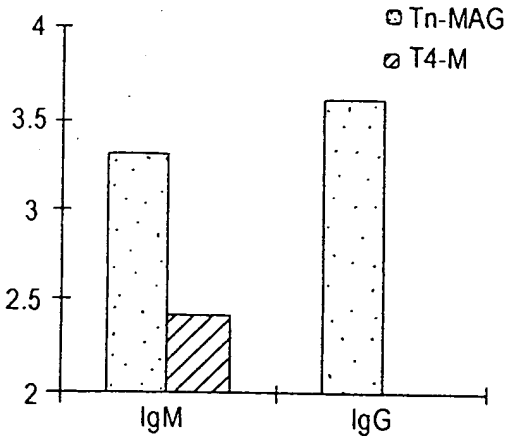


FIG. 5c

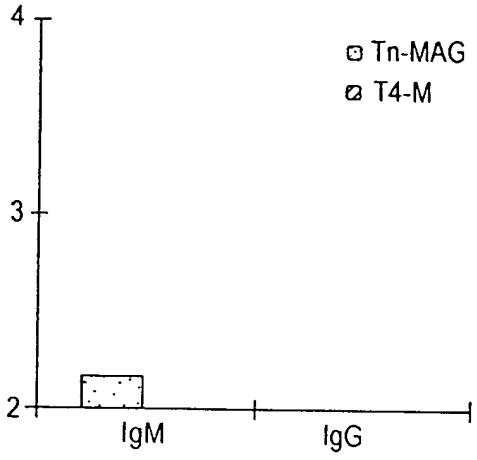


FIG. 5d

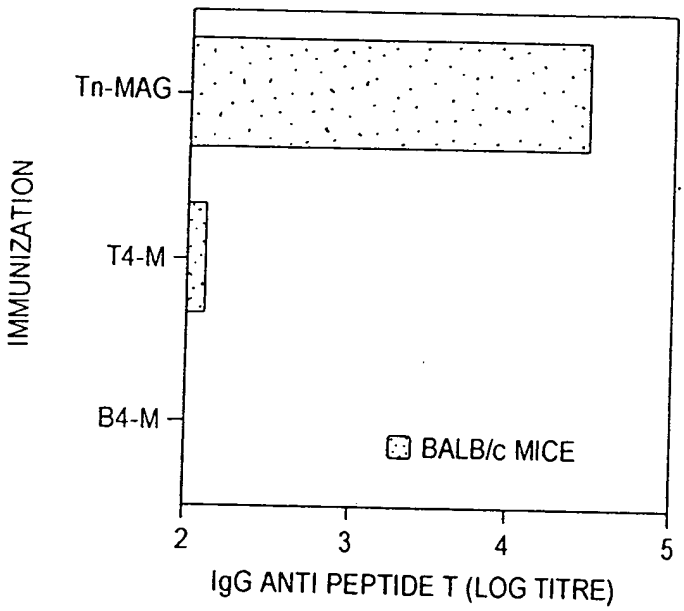


FIG. 6

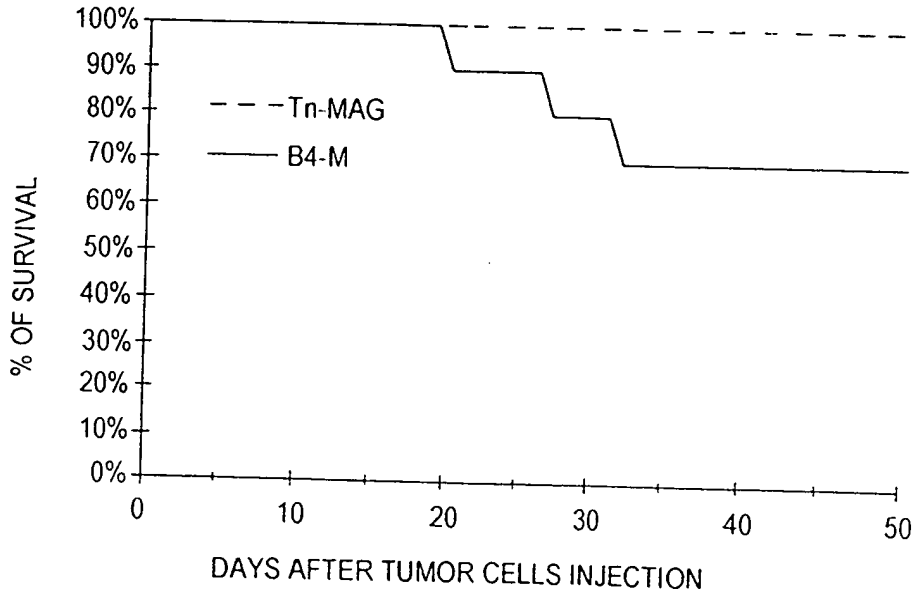
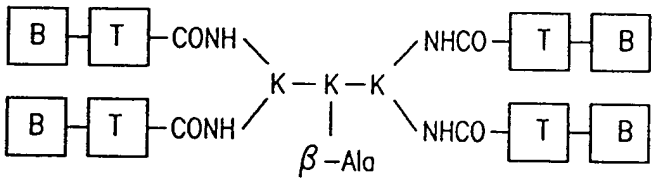


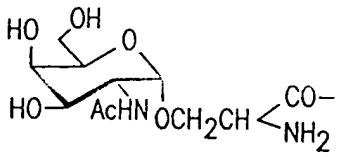
FIG. 7



MAG:Tn–PV

B = Tn antigen

saccharidic



T = PV epitope

peptidic

KLFAVWKITYKDT (SEQ. ID NO. 4)

FIG. 8

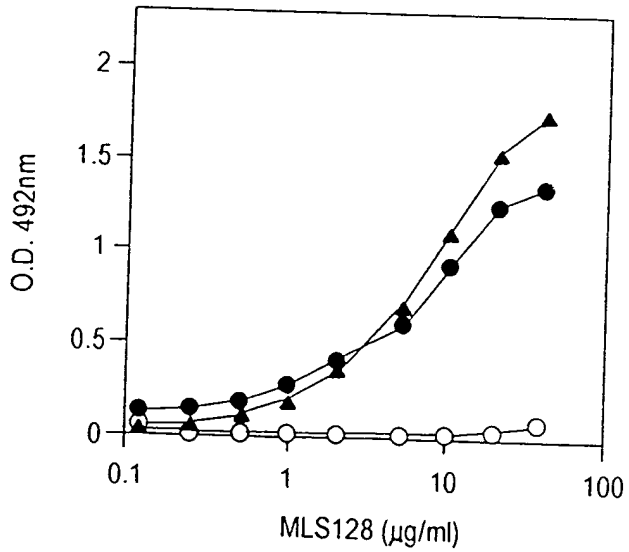


FIG. 9a

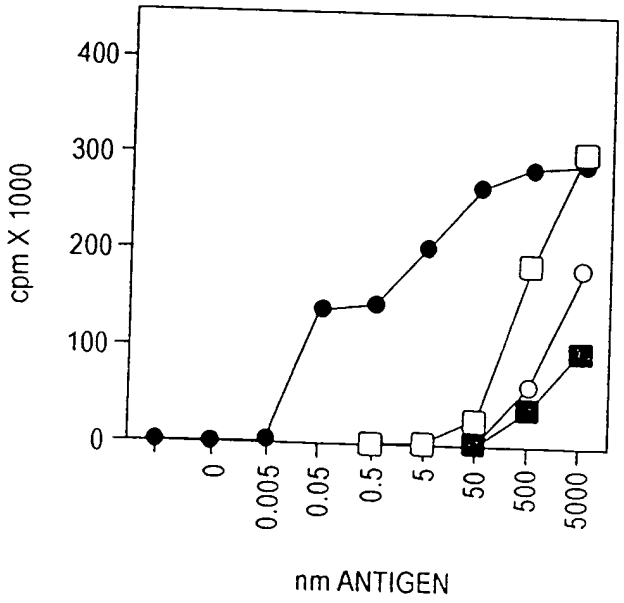


FIG. 9b

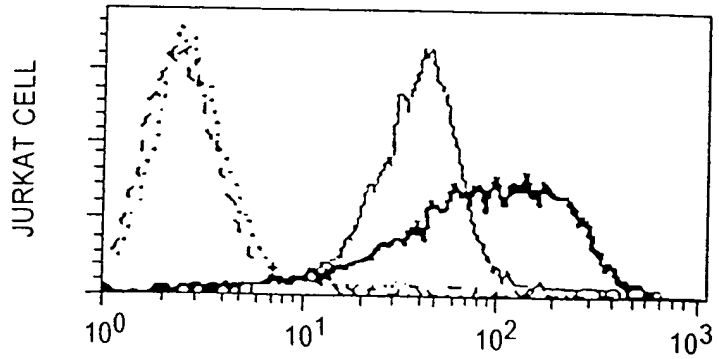


FIG. 10a

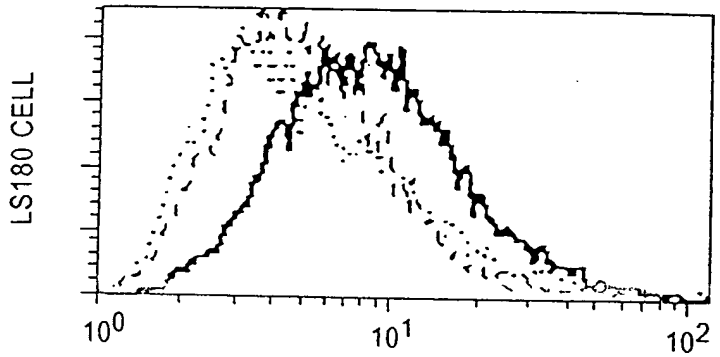


FIG. 10b

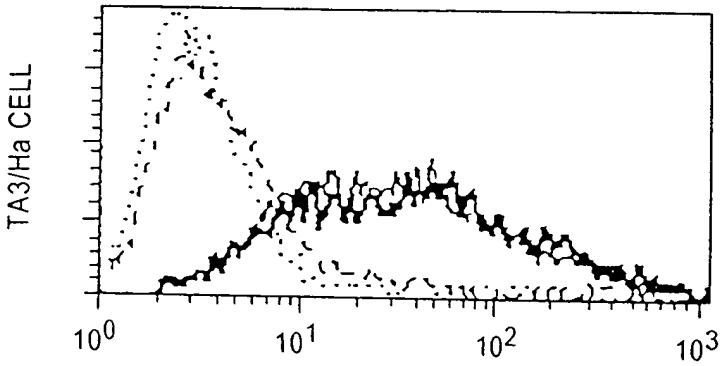


FIG. 10c

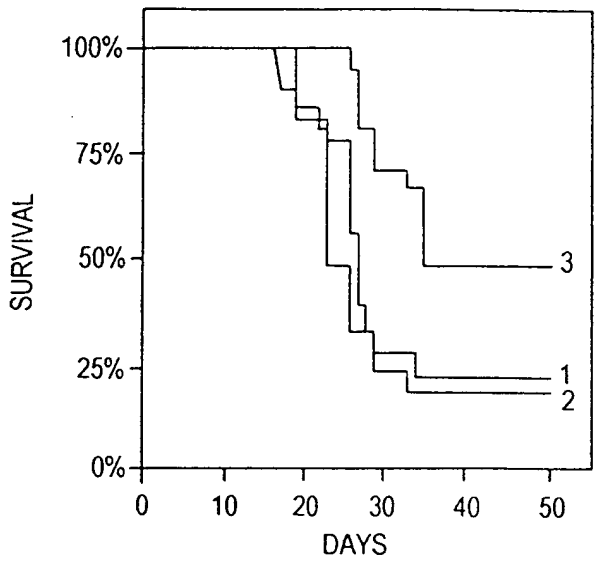


FIG. 11

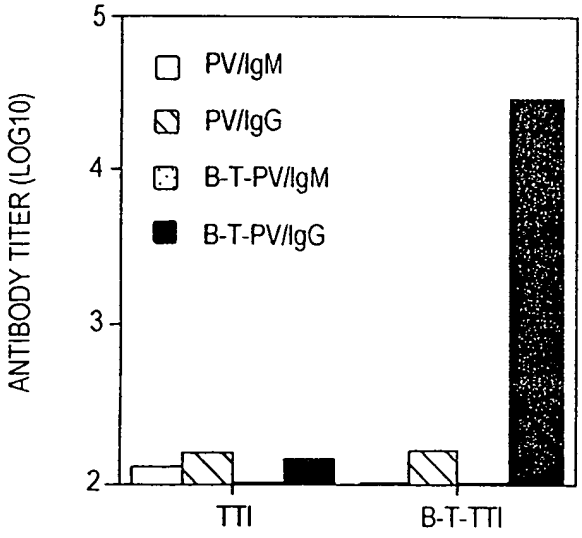


FIG. 12a

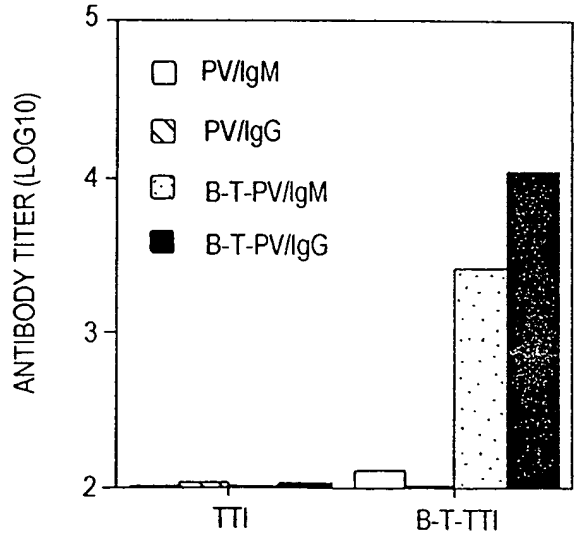


FIG. 12b

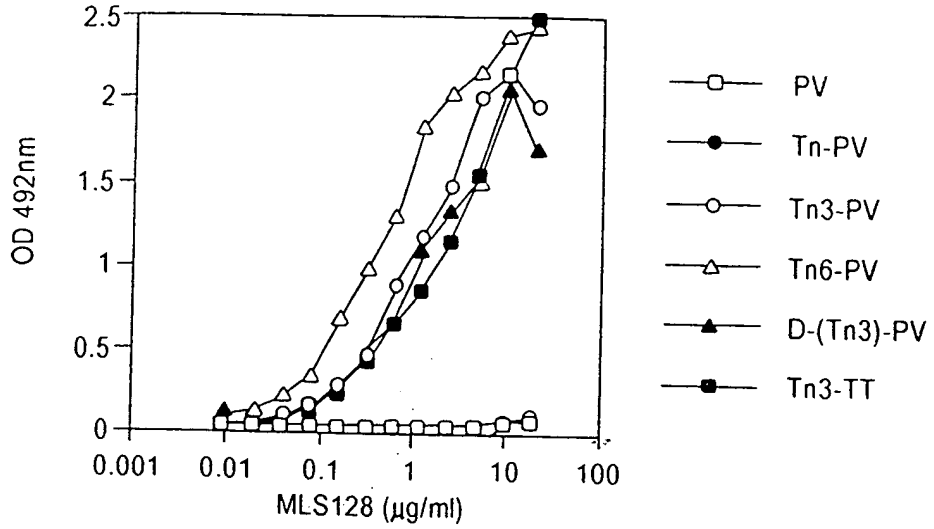


FIG. 13a

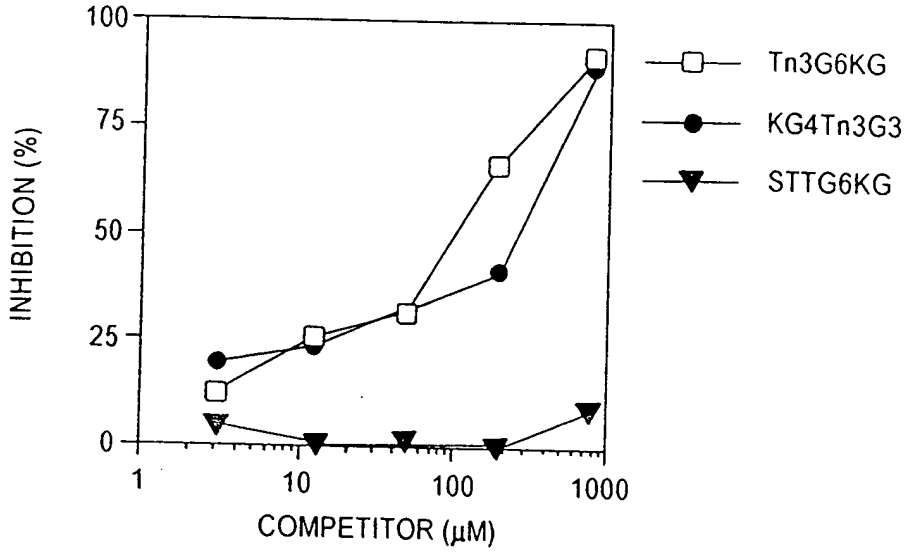


FIG. 13b

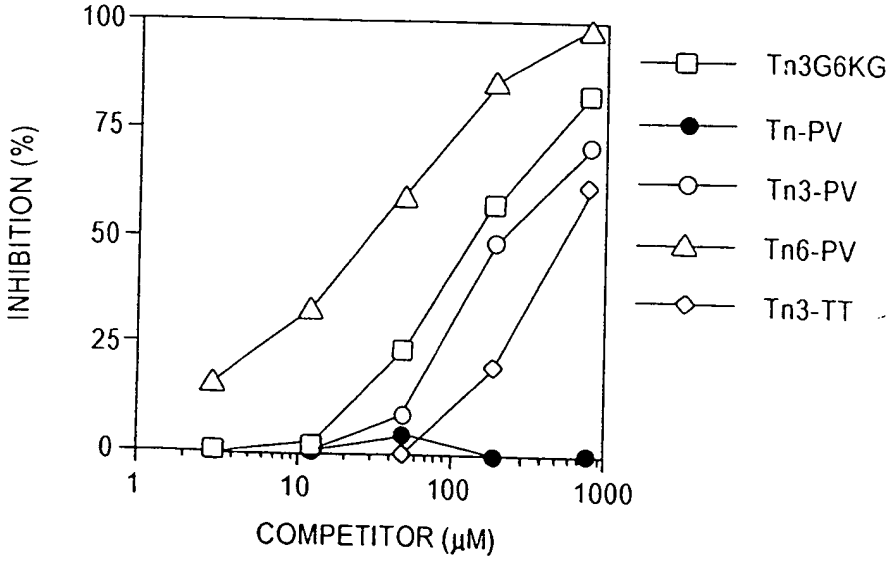


FIG. 13c

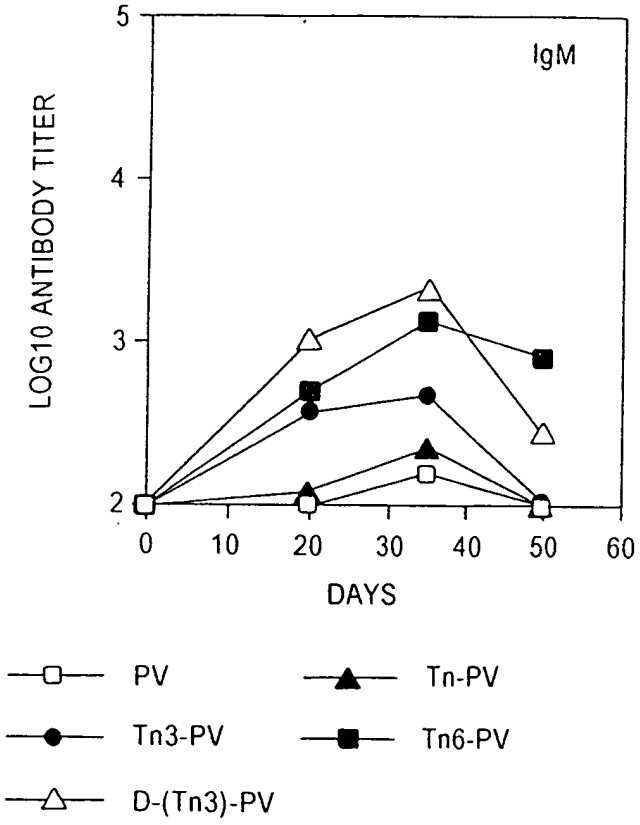


FIG. 14a

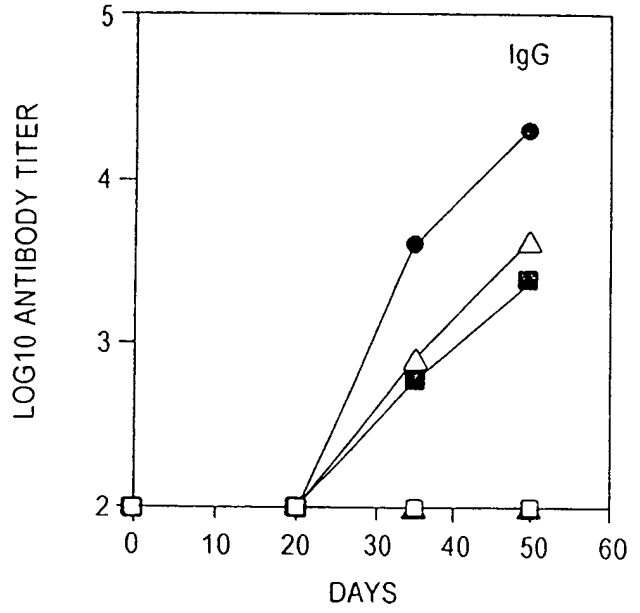


FIG. 14b

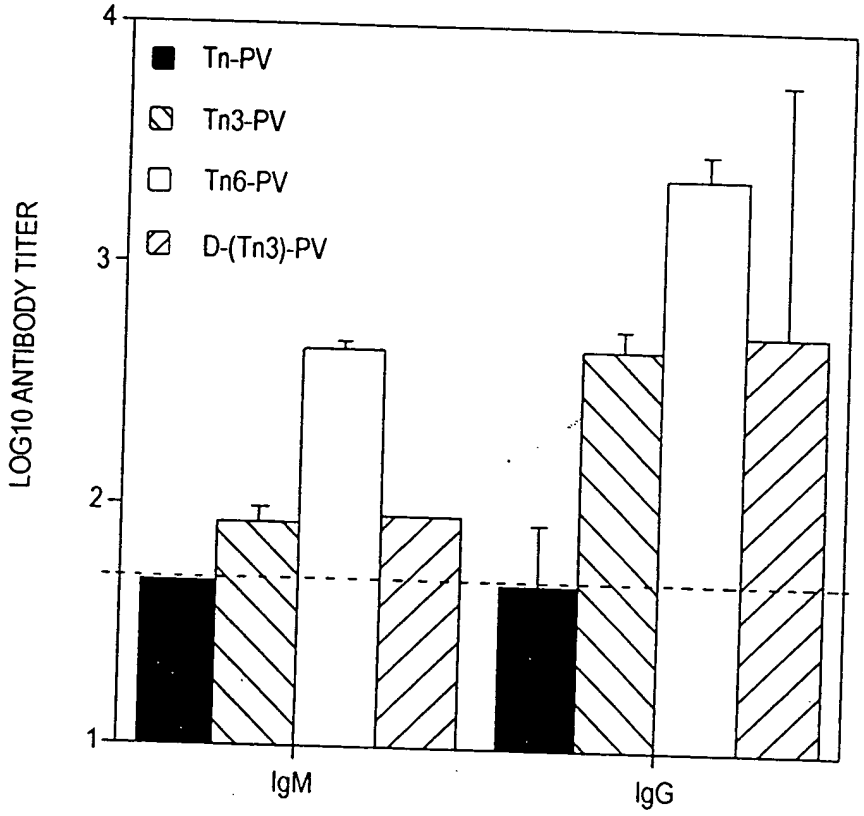
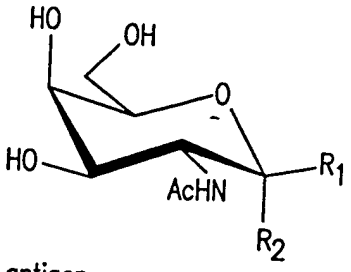
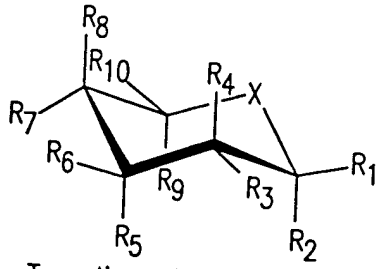


FIG. 15



Tn antigen
R_1=H,R_2=O–Ser or O–Thr or OH
R_1=O–Ser or O–Thr or OH,R_2=H



Tn antigen derivatives
X=O,S,CH_2,NH
R_1,R_2=H,OR,SR,CH_2R
R_{3-10}=H,OH,NHAc,CH_2OH,CH_3
R=carbohydrate residue,linker,amino–acid

FIG. 16

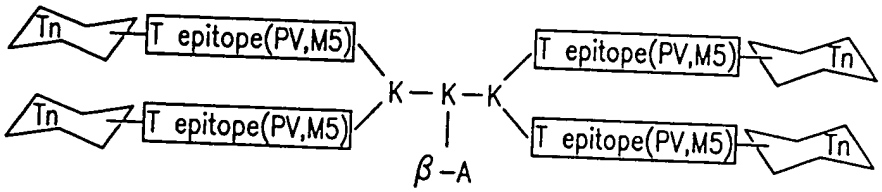


FIG. 17a

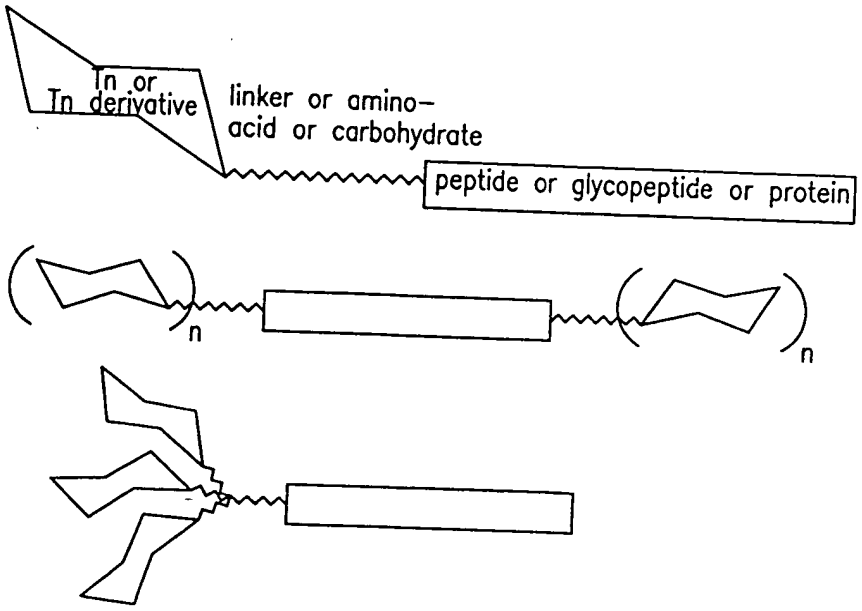


FIG. 17b

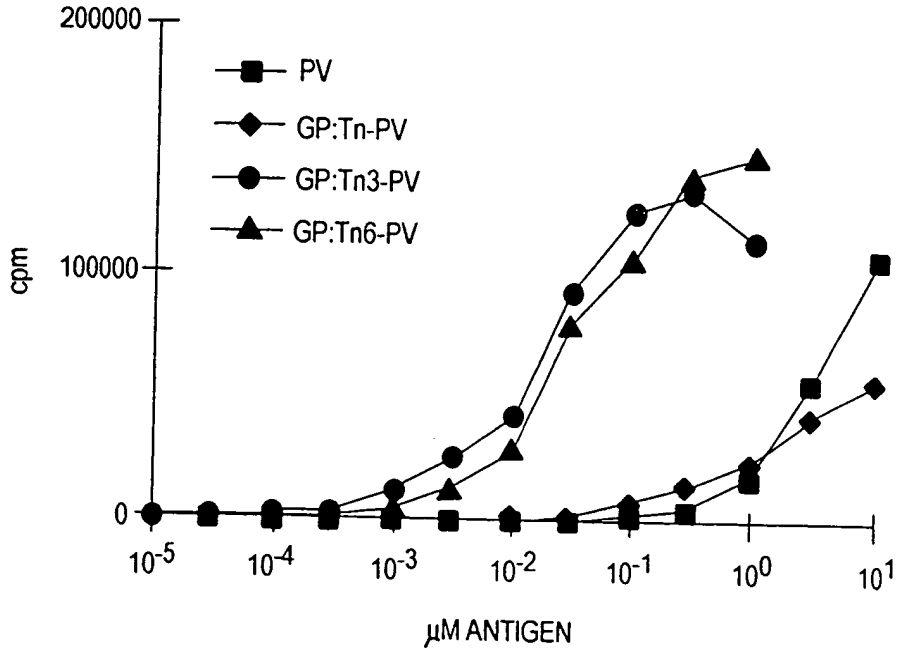


FIG. 18a

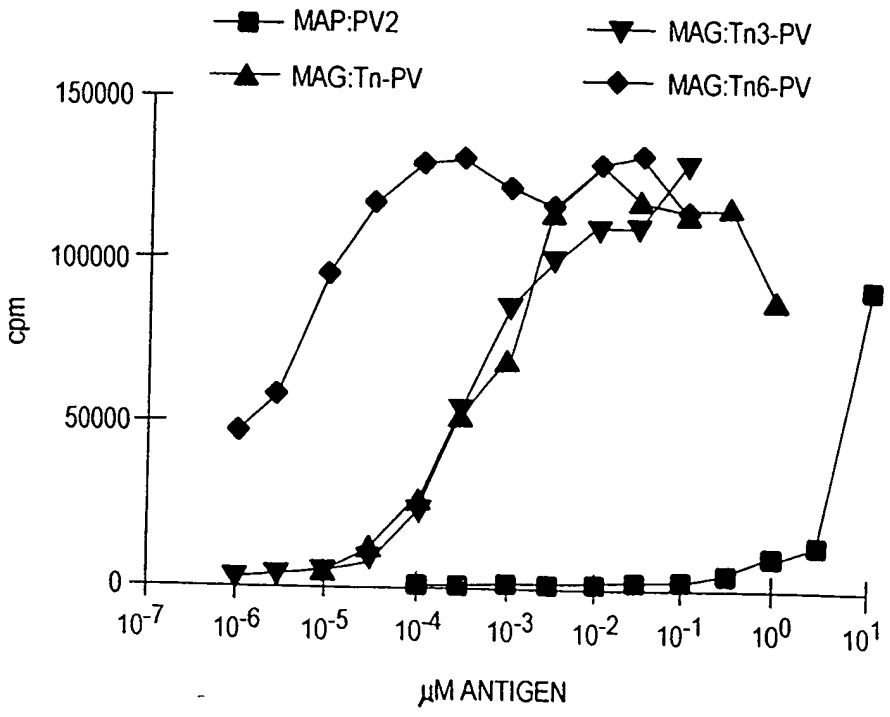


FIG. 18b

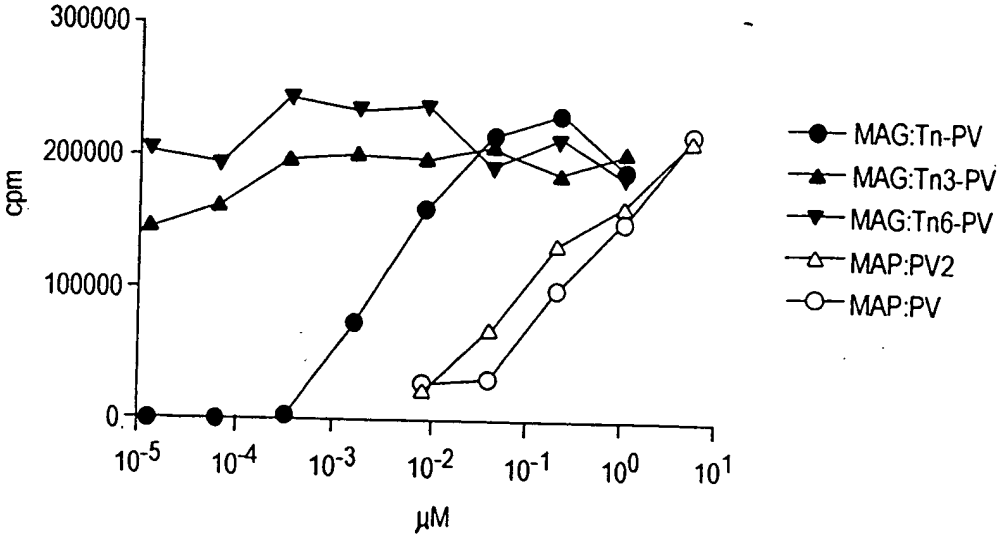


FIG. 19a

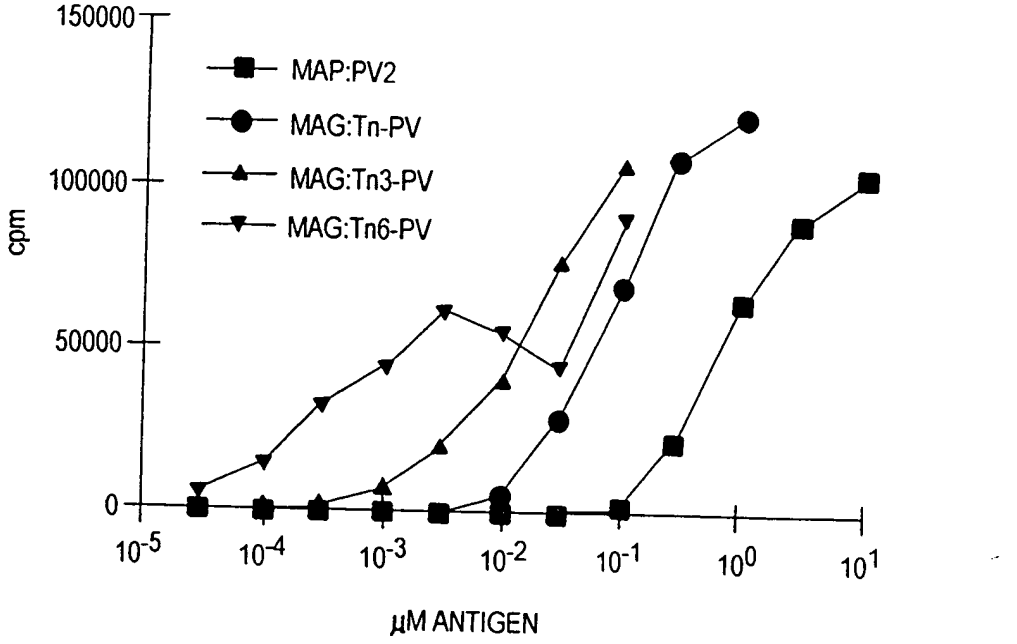


FIG. 19b

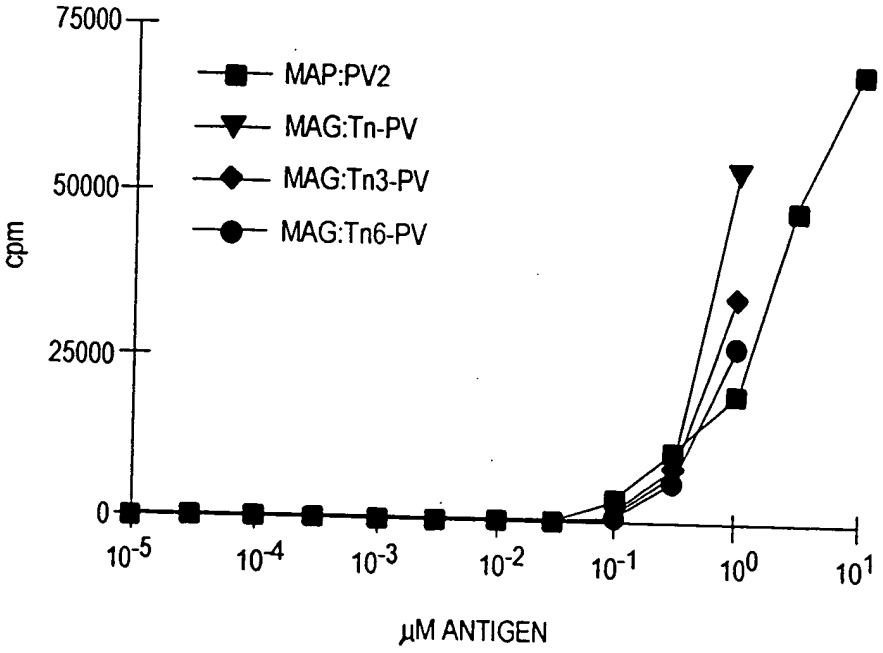


FIG. 20

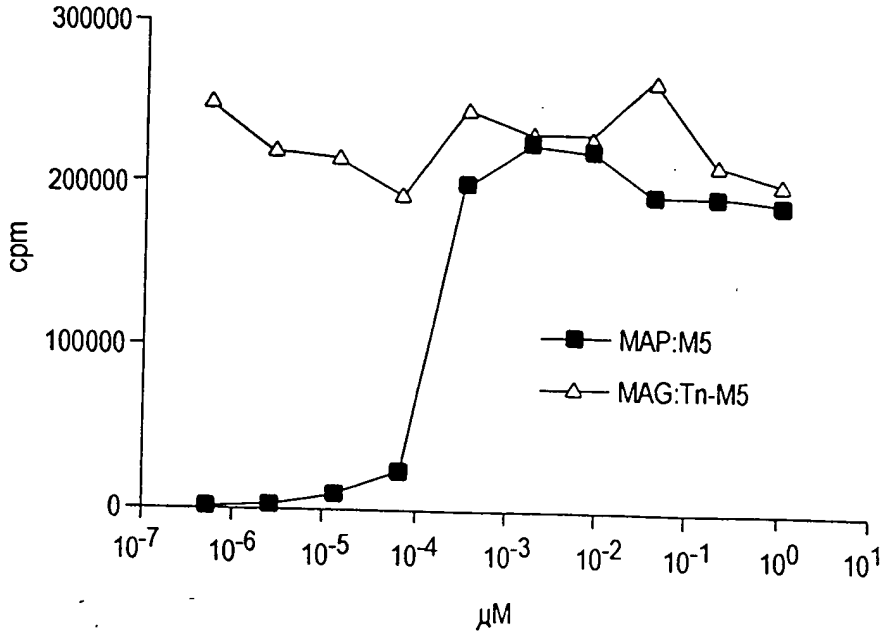


FIG. 21

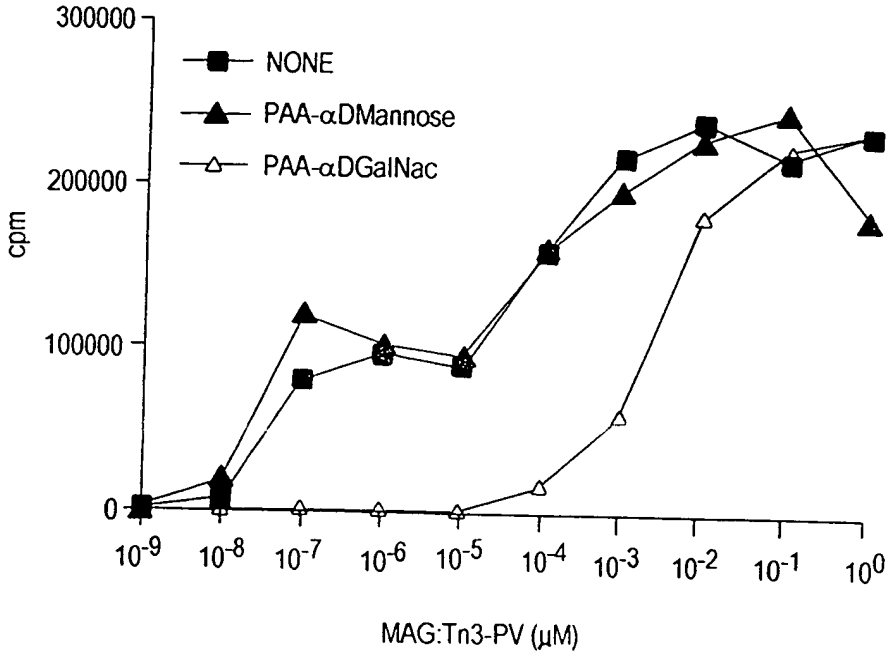


FIG. 22